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Process Evaluation of SWOS Division Officer Training

by

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| 13. ABSTRACT (maximum 200 words) The Navy's Surface Warfare Officer (SWO) community has made impressive and creative efforts to train their junior officers (JOs) while at the same time responding to budget constraints. The current training program, which begins with a five-week course delivered by Afloat Training Groups in Fleet Concentration Areas, has saved money and shown other benefits for SWO ensigns. A formative evaluation based mostly on qualitative data—interviews or focus groups with over 100 SWOs—documents the benefits, but also some unintended consequences. The researchers recommend assessment by SWO leadership to fully weigh the costs saved in current division officer (DIVO) training against the potential for improperly trained and dissatisfied ship drivers. A needs analysis should be conducted to develop formal, dedicated training based on clear objectives and on par with the responsibilities required of the JOs. New training should be strategically communicated throughout the Surface Warfare community to ensure that it is fully understood and supported by all of those in a position to help develop JOs. The plan should contain renewed emphasis on mentoring, which is not as extensive as senior leaders intend. The importance of entry-level training in creating commitment and positive expectations of the Navy is the imperative to continue to improve DIVO training. | | | | |
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Abstract

The Navy's Surface Warfare Officer (SWO) Community has made impressive and creative efforts to train their junior officers (JOs) while at the same time responding to budget constraints. The current training program, which begins with a five-week course delivered by Afloat Training Groups in Fleet Concentration Areas, has leveraged fleet assets and shown other benefits for SWO ensigns. A formative evaluation based mostly on qualitative data—interviews or focus groups with over 100 SWOs—documents the benefits, but also some unintended consequences. The researchers recommend assessment by SWO leadership to fully weigh the costs saved in current division officer (DIVO) training against the potential for improperly trained and dissatisfied ship drivers. A needs analysis should be conducted to develop formal, dedicated training based on clear objectives and on par with the responsibilities required of the JOs. New training should be strategically communicated throughout the Surface Warfare Community to ensure that it is fully understood and supported by all of those in a position to help develop JOs. The plan should contain renewed emphasis on mentoring, which is not as extensive as senior leaders intend. The importance of entry-level training for creating commitment and positive expectations of the Navy is the imperative to continue to improve SWO DIVO training.

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Executive Summary

In August 2008, the Surface Warfare Officer (SWO) Community revised the initial, entry-level Division Officer (DIVO) training, which was the third significantly different version of the SWO DIVO training program in seven years. As this new training was launched, SWO leadership desired to learn how well the training appeared to be meeting its objectives and whether any modifications were warranted. RADM Kevin Quinn, Commander, Naval Surface Force, Atlantic and Captain Scott Jones, then Commanding Officer, Surface Warfare Officer School (SWOS), asked the Naval Postgraduate School (NPS) to examine the new training.

Until 2003, DIVOs received their initial training prior to reporting to their first ships from a six-month, brick and mortar course administered at SWOS in Newport, RI. In 2003, the training was changed to the “SWOS-at-Sea” program’s shipboard individually-paced, computer-based training (CBT) and on-the-job training (OJT), followed by a three-week resident “leveling” course at SWOS in Newport.

The importance of any entry-level training cannot be understated because of its known links to employee socialization, job satisfaction, and retention (e.g., Klein, 2000; Yang, 2008). In fact the Surface Warfare Community moved away from the SWOS-at-Sea program because of many negative, unintended consequences of that particular form of training (Bowman, Crawford, & Mehay, 2008).

Under the current training program, newly commissioned United States Naval Academy (USNA) and Naval Reserve Officer Training Corps (NROTC) graduates attend a resident introductory (INTRO) course taught by Afloat Training Group (ATG) staffs at Fleet Concentration Areas (FCAs) shortly after the officers report to their ships. A fourth week in leadership training is provided by instructors from the Center for Personnel and Professional Development (CPPD). An additional fifth week utilizes the FCA’s local resources for additional ship visits and completion of some qualifications.

After the course, the officers return to their ships to receive OJT and progress through SWO qualification requirements. Subsequently, the officers attend a three-week residence course in Newport, Advanced Shiphandling and Tactics (ASAT), after which they return to their ships for final SWO qualifications.

This research project looks at the new training from the perspective of the key stakeholders, as well as the points at which it intersects and impacts subsequent DIVO training in the pipeline. Interviews/focus groups were conducted with 110 persons from the Surface Warfare Community, including ensigns and leadership from ten ships, ensigns attending ASAT at SWOS, ATG

and SWOS staff, and post-command officers. Interviews with the first class of ensigns who experienced the new ATG training and progressed to ASAT were of particular interest to this study.

An exploratory analysis of quantitative data was also performed. The DIVO fundamentals test given within the first few days of ASAT is approximately the same test given under the old training. These comparable test scores were examined to determine early trends in performance of ensigns under each program. While the exploratory analysis could not provide conclusive results due to the small data set under the new training, it suggested value in conducting future, more sophisticated analyses as more data is accumulated.

Conclusions

The current INTRO-ASAT pipeline is an improvement from the previous SWOS-at-Sea program and benefits have already been realized. However, this current pipeline still has drawbacks and potentially hidden costs; it can be improved. Thus, while we conclude that the direction and format have changed for the better, we also conclude that the most recent SWO DIVO training has several unintended consequences and that the training design should once again be revised. The answers to the two research questions posed by the CO of SWOS are:

1. *Given the resource constraints, do we have it right?*

It's a good start, but is not yet where it should be. Conclusions to support this answer follow.

2. *If given additional resources, what should we do?*

Suggestions for change supported by this research follow in the Recommendations section.

Benefits of the ATG-taught INTRO

Better prepared ensigns. As intended, some ensigns acquired increased familiarization with division officer fundamentals, which has built better confidence and knowledge than was possible under SWOS-at-Sea. Ensigns have gained practical, hands-on exposure and been able to see first-hand how the ATG inspects ships.

Renewed sense of community. ATG training has provided an opportunity to recapture the camaraderie created by brick and mortar SWOS but absent in the individualized SWOS-at Sea program.

ATGs made impressive use of resources. The ATGs were very efficient in quickly standing up the new training in spite of their manpower

concerns about taking this on as an additional mission. Further, the instructors have risen to the occasion with motivation and concern for teaching and mentoring junior officers.

In addition, the ATGs and SWOS have shown ingenuity and flexibility shown in the improvements they have made to the curriculum and processes since its inception. In particular, the fifth week that utilizes fleet resources is evaluated positively by all stakeholders.

Leveling school effective. ASAT continues to function effectively as a leveling school for SWO ensigns. Students value the dedicated time to learn beyond their own ships and reflect on being a SWO, and they appreciate instructors' concern and depth of knowledge.

Unintended Consequences:

Studies reviewed for the present research underscore the importance of the initial training individuals receive upon entering organizations. This training creates expectations about organizational behaviors, values, and culture and is linked to job satisfaction and retention. Leader support for initial training is also critical. In spite of the benefits of the ATG training, we conclude that it does not adequately fulfill the desired outcomes of entry-level training—especially when considered in the context of subsequent OJT. With many moving parts in the DIVO pipeline, it's not surprising that there were some unintended, negative effects.

Course not long enough. Ensigns and senior leaders would all like to see a longer initial course that provides more breadth and depth. The “fire hose” curriculum is not meeting the ensigns' desired level of preparation nor the leaders' expectations of standard, trained reporting ensigns.

Curriculum/teaching inefficiencies. The fourth leadership week of the new training (not taught by the ATG) is negatively viewed by enough of the interviewees to merit a serious question of whether a full week of training time should be devoted to it.

OCS vs. NROTC/USNA inequalities. OCS graduates do not have the fourth and fifth weeks that the ATGs offer. OCS graduates have dedicated training time; ATG ensigns often return to their ships to work in the evenings, which distracts them from school. Returning to work may be required of them or it may be due to a choice they make to check on their division.

In addition, the INTRO curriculum used for OCS graduates may not be optimal for the more-experienced NROTC and USNA graduates.

Classroom learning challenges. Inconsistencies result from the ensigns' backgrounds and the different length of time ensigns have already spent

on their ships prior to reporting to INTRO. The resulting training environment is useful for some, mostly a waste of time for others, and creates teaching challenges for the ATG, which deprives ships of a “standard ensign.” In addition, once they have reported to their ships, the students often have ship-related distractions – a key disadvantage to the current school timing arrangement.

Shipboard training issues. The effectiveness of the DIVO training pipeline depends heavily on the quality of the shipboard OJT period between the INTRO and ASAT courses. However, high quality OJT is the exception. The majority of both ensigns and their senior officers complain about the burden placed on the already overly-burdened ship’s schedule. Leaders would like to be able to help ensigns complete their qualifications rather than spending time on basic, division officer fundamentals.

In addition to busy ship schedules, suboptimal OJT can also be attributed—on some ships—to a culture that supports leaving ensigns on their own to learn, making it even harder so they will “learn to be SWOs.” Advantages to a culture of hard work and mentally tough officers aside, a culture of “go figure it out yourself,” is a seriously inefficient way to train. The message sent may be intended as “go do it yourself, you’ll learn better on your own,” but can be heard as “I don’t care; I don’t have time for you.” Exceptions were found where the commanding officer made JO development a priority.

Similarly, mentoring is assumed to be happening by senior leaders but the ensigns report otherwise; few of the 48 ensigns interviewed had mentors.

Leadership support/awareness. In spite of considerable communication about the ATG-taught program, most SWOs, other than those at SWOS or ATG, do not know what is contained in the curriculum and are unclear on the desired objectives. The result is frustration created by multiple understandings of what the training can accomplish.

The expected positive outcomes of entry-level training are based in part on leadership support and involvement; these training benefits cannot be fully attained with the low level of training awareness and involvement by leadership that was observed in this research.

Instructor issues. Senior leaders feel strongly that SWO junior officers should be taught by SWOs to produce consistent training. Many further commented on their desire for junior officers not to be taught by ATG personnel on collateral duty, and not to be taught by enlisted personnel. Leaders are concerned that the training is potentially inconsistent and not of the depth needed to produce the desired skills. Seniors also felt that the old six-month SWOS, while providing a solid foundation, was an inefficient use of time and could have been shortened to a three or four month-long course.

Also, in spite of directions to the contrary, there remains an over use of PowerPoint in some locations that results in “transmitting” rather than teaching the material.

Negative message. All of the issues mentioned above converge on one key disadvantage of the ATG training: both ensigns and senior leaders perceive a negative message from the Navy about the value it places on the community, the training, and the ensigns. The lack of standardization, timing issues, and training provided by volunteers as collateral duty (vs. manpower requirements for this kind of instruction) conveys a lack of concern and reinforces the old image of SWOs as second-class citizens.

Recommendations

The three different DIVO training pipelines in recent history have each had advantages and disadvantages. The goal now should be to pull out the best features of each program (and consider some not-yet used features) to design the most optimal, highest-quality DIVO training.

- Conduct a needs analysis to determine objectives for each part of the DIVO pipeline.
- Assess all possible tradeoffs such as lower training costs vs. the potential impact on ship safety/mishaps, retention, etc.; budget cannot be the only driver for this important training.
- Expand the course length to be commensurate with the level of responsibility placed on SWO JOs. Consider making INTRO three months long to add breadth and depth to curriculum, while creating a shorter, more efficient course than the old six-month Newport version.
- Use SWOS instructors to teach the course. Keeping the training in the FCAs is recommended, as it would permit SWOS to capture the learning opportunities present at the waterfront.
- Seek ways to send ensigns to dedicated training before they report to ships, so that the ship receives a more consistent outcome and can focus on helping ensigns move through their qualifications rather than on providing basic DIVO training. This also would enable students to focus on school, undistracted by ship duties.
- Include OCS-commissioned officers in new training to reduce some of the variability in the skill levels of SWO junior officers.

- Develop a strategic communication plan to create realistic expectations for all phases of SWO JO development and improved support for mentoring.
- Incorporate a short section into more advanced SWO training on familiarization with the DIVO training configuration; the importance of leader's roles in supporting the training; and the importance of mentoring for SWOs.
- Create a systematic feedback loop from ships to the training.
- Continue to analyze performance of officers who have now attended both INTRO and ASAT; conduct regression analysis to look for possible indicators of high performance.
- If the current configuration of ATG-administered training is kept, the following changes should be made:
 - Use needs analysis to focus course contents on a reduced number of events to permit "soak" time.
 - Use new cases and hands-on time wherever possible.
 - Use PowerPoint for summary and reference vs. teaching.
 - Consider eliminating the fourth/leadership week of training.
 - Add dedicated instructor billets at the ATG to eliminate manpower strain.
 - Allow the ATGs continued flexibility to enhance the curriculum with local resources.
 - Formally capture and share best practices across the ATGs.
 - Analyze ATG survey data.
 - Create processes to validate training with CO input.

Give OCS graduates one week of SWO-related training then send them to their FCA to participate in ATG training with their USNA and NROTC counterparts

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I. Introduction

In response to budget constraints and the desire to provide the most effective training for junior officers, the Surface Warfare Officer (SWO) Community has changed the training pipeline for division officers (DIVOS) several times in recent years. In particular, they have tried several different approaches to conducting the entry-level training. In August 2008, the community revised the initial training, which was the third significantly different version of the SWO DIVO training program in seven years. As this new training was launched, SWO leadership desired to learn how well the training appeared to be meeting its objectives and whether any modifications were warranted. RADM Kevin Quinn, Commander, Naval Surface Force, Atlantic and Captain Scott Jones, Commanding Officer, Surface Warfare Officer School, asked the Naval Postgraduate School (NPS) to examine the new training.

Research this early in the process of a new training program is called a “formative evaluation” because there are insufficient data to make an ultimate determination of the effectiveness of the training. Rather, one looks at whether the training is progressing as intended, whether there are any unintended effects, and whether any mid-course corrections are needed.

A formative evaluation of the new training is especially important because of the potential impact of entry-level training on organizational outcomes such as retention. One aspect of a new employee’s initial training is organizational socialization through which they “...learn about and adapt to new jobs, roles, and the culture of the workplace” (Klein, 2000). Newly hired employees can face intense challenges in transitioning to their new roles, learning the job, and adjusting to the organization. Research shows that the socialization that comes from training can play a critical part in this adjustment process and is also linked to organizational commitment. And, there may be a short window for effectively instilling this socialization (Klein, 2000). From another perspective, socialization is linked to job satisfaction, which reduces employee intention to leave (Yang, 2008).

Additional research relevant to the study of the new SWO training shows that social support for training—including the sense that colleagues, supervisors, managers, and senior leadership consider the training to be important—can impact employees’ attitudes toward the training (Bartlett, 2001).

These studies suggest that gathering new SWOs together early in their first tour for organized, indoctrination-style training can create effective socialization, which—through its impact on commitment—can actually influence retention decisions. They also emphasize the importance of leadership support of such training and how this support can shape a junior officer’s expectations of, and behavior toward, the training.

This research project looks at the new training from the perspective of the key stakeholders, as well as the points at which it intersects with subsequent DIVO training in the pipeline.

II. Background

Evolution of SWO DIVO Training

SWOSDOC. Prior to 2003, newly commissioned officers attended a resident curriculum at Surface Warfare Officer School (SWOS) in Newport, Rhode Island, referred to as Surface Warfare Officer's School Division Officer Course (SWOSDOC). The length of the curriculum, six months at one time, varied over the years. After completion of SWOSDOC, graduates reported to their assigned ships to begin their first division officer tours and attain their SWO qualifications.

SWOS-at-Sea Training. In January 2003 the Navy transformed the classroom-based SWOSDOC into a two-part program, referred to as SWOS-at-Sea. This training was developed to reduce training costs and the time required for officers to attain SWO qualification, incorporate at-sea training, and to enhance fleet-wide standards for SWO qualification. Under this program, newly commissioned officers reported directly to their ships without first attending a school, thus reducing the number of permanent change of station moves. Once on their ships, the officers progressed through SWO qualifications with a combination of individually-paced, computer-based training (CBT) and on-the-job training (OJT). Before earning final SWO qualification and after receiving their Officer of the Deck (OOD) qualification, they attended a three-week resident "leveling" or "finishing" course at SWOS in Newport.

In 2008, the Naval Postgraduate School conducted a study sponsored by the Chief of Naval Personnel, "An Assessment of the Effectiveness of Computer-based Training for Newly Commissioned Surface Warfare Division Officers" (Bowman, Crawford, & Mehay, 2008), to explore the effectiveness of the CBT-based SWOS-at-Sea training program. Research included a literature review on the effectiveness of CBT, in-depth interviews with SWOs, and statistical analysis of student performance on DIVO tests administered at SWOS.

The NPS study revealed a number of problems with the SWOS-at-Sea training program. The use of unstructured OJT and of self-directed, impersonal and asynchronous CBT, were found to be less desirable and less effective than face-to-face training for much of the SWOS-at-Sea type of content.

The study found that, lacking initial formal division officer-related training prior to reporting to their ships, the newly commissioned officers were not well-prepared to become division officers. Senior officers reported that ensigns newly reporting to their ships faced significant difficulties learning to become division officers. The ensigns reported frustration with CBT and feeling unprepared to function as division officers. Some expressed concern that time-constrained personnel on ships were not able to give adequate time to training the ensigns,

and that when training did occur, the quality was inconsistent. In fact, and not surprisingly, training varied across ships as a function of the Commanding Officer's emphasis on training. Last, the ensigns perceived a negative message from the Navy in being handed a stack of CDs rather than being sent to a formal, dedicated, post-commissioning school like other unrestricted line officers. This had a somewhat demoralizing effect on the SWO junior officer culture.

The study also included a statistical analysis of SWOS-at-Sea student test results at the three-week, classroom-style leveling course at SWOS. Under the SWOS-at-Sea program, students were required to pass four self-directed exams ("DIVO Fundamentals Modular Tests") at the completion of each of the four CBT modules. Later, when the officers first arrived at the three-week leveling course, SWOS administered a test that was derived from the four self-directed CBT tests. The score from this arrival-day exam was, in essence, an indicator of how much knowledge the students had retained from their CBT. Two additional exams were administered to students near the completion of the leveling course to measure their learning during the course. The study examined test scores for 733 officers who completed the three-week leveling course between June 2007 and March 2008. Multivariate regression models were specified to estimate the marginal effects of various variables on weighted total test scores and on the total self-directed test scores.

Findings of the statistical analysis of the test scores included:

- The likelihood of a passing rate on the weighted score on all four self-directed DIVO tests was related to the type of ship to which the officer is assigned; particularly low passing rates were observed for those assigned to carriers. However the study noted that ship type assignment, in turn, is in part related to the academic performance of USNA and ROTC graduates. Interestingly, the study found that differences in the self-directed tests' passing rates were mostly due to schooling-related ability differences, rather than to differences in the learning environment across different ship types.
- NROTC graduates from highly selective schools were more likely to pass the self-directed modules and the overall CBT test than the USNA graduates; however, the study found that once officers were brought together in the "leveling experience" at SWOS, few, if any, differences in performance across different commissioning sources were found.
- No significant differences across ship types, home ports or college quality were found in the students' performances on the end-of-class SWOS exams. However, college major (i.e., technical or non-technical) appeared

to be related to performance on both self-directed tests onboard ships as well as on the classroom-administered SWOS exams.

- Non-commissioned officers were roughly 13 percent less likely to pass the SWOSDOC final exam than commissioned officers.
- Ethnic status did not appear to impact performance on the self-directed DIVO modules or the traditional SWOS classroom exam; however ethnic minorities were less likely to pass the SWOS simulator-style exam.
- Females had a lower passing rate on the weighted total CBT score than did males. This indicated that women ensigns enter SWOS less prepared than their male counterparts. However, scores taken at the end of the three-week course revealed no differences between the men and women, indicating that “leveling” had, in fact, occurred.

Overall, the quantitative data analysis of the exam scores showed that less than three-fourths of reporting DIVOs scored passing on the self-directed tests (i.e., 75% correct on selected questions from the DIVO Fundamentals Modular Tests), but the SWOS experience leveled the differences that resulted from the CBT.

Concerns expressed from within the SWO community, at about the same time as the Naval Postgraduate School study, indicated that SWOS-at-Sea was not adequately developing new officers. The SWO leadership concluded that the SWO division officer training process should again be redesigned. The Commander Naval Surface Force (CNSF), Vice Admiral D.C. Curtis, stated in a 2008 message (Ewing, 2008) that he had “learned that a large percentage of our newly reporting ensigns are not adequately prepared to function as an effective division officer [or] watch-stander when they report onboard their initial assignment. I feel it is necessary to put a program in place that will set our young surface officers and their commands up for success.”

FCA/ATG Training. Under the current, new training program, newly commissioned officers attend a resident introductory (INTRO) course. The CNSF guidance for this course was described as: “To support improved warfighting readiness and to more adequately prepare our officers to function as effective division officers and watch-standers when they report aboard, we intend to conduct a four week introduction course in FCA’s leveraging existing assets to provide instruction in leadership, 3M, DIVO Fundamentals, and watchstanding skills.”¹

¹ CNSF Guidance from SWOS VTC briefing of 12 June 2008.

The program is modeled after a three-week course offered by SWOS to officers commissioned through Officer Candidate School (OCS). The post-OCS course, designed by SWOS instructors, had been put in place to aid in the transition between OCS and the first ship assignment; this course is still in place at Newport, RI. United States Naval Academy (USNA) and Naval Reserve Officer Training Corps (NROTC) graduates now attend the same three-week course shortly after they report to their ships but it is offered by Afloat Training Group (ATG) staffs at Fleet Concentration Areas (FCAs). (The three week curriculum is shown in Appendix A.)

The USNA and NROTC officers also receive a fourth week in leadership training conducted by the instructors from the Center for Personnel and Professional Development (CPPD), as well as a fifth week that seeks to utilize the resources available in the FCA for additional ship visits and completion of some qualifications. The CBT is no longer required but is available as a reference tool. The new training was initiated as a pilot program in August 2008 at Norfolk and San Diego and subsequently expanded to other FCAs.

The ATGs typically arrange sessions in simulators for Damage Control Firefighting training, as well as sessions in a local designated "School Ship," so students can see actual equipment and gain hands-on training. And, while SWOS directs the instructional content, the ATGs are given some local flexibility to take advantage of local resources, such as visiting local ships in port and attaining swim and pistol/rifle qualifications.

Important aspects of the design were to create camaraderie, which had been lost with the individually-based SWOS-at-Sea program, and to leverage the existing classrooms and instructors at the ATGs. ATG instructors teach INTRO courses in addition to their standard ATG duties.

After the course, the officers return to their ships to get OJT (another important aspect of the training design) and progress through SWO qualification requirements. Subsequently, the officers attend a three-week residence course in Newport, Advanced Shiphandling and Tactics (ASAT), after which they return to their ships for final SWO qualifications. The ASAT curriculum is similar to the previous three-week course at SWOS (considered the leveling school under SWOS-at-Sea) but the requirement to have the OOD qualification prior to ASAT has been waived. This gives the ships greater flexibility to determine when an officer is ready to attend ASAT and to lessen the impact on the ship's operational period. The key point here is that the revised training pipeline now consists of *classroom-based, instructor-led training at both the beginning and near the end of the first division officer tour*, combined with the OJT onboard the ships.

The quality of SWO division officer OJT is, in part, influenced by the time available on ships for ensigns to learn and practice skills, as well as the time

available for department heads and others to train and coach them. This training time factor, in turn, is impacted by the increased requirements and demands placed on the ships, coupled with decreased manning. The following further discusses the context in which the OJT is performed.

Training Burden on Ships

Recent and highly publicized incidents of poor ship Inspection and Surveys (INSURVs) and ship mishaps added fuel to concerns over the CBT-based training; suggestions mounted that troubles in the Navy's Surface Force were at least partly due to inadequate officer training and to the increased burdens placed on the already strained ship manning (Davis, 2007; Ewing, 2008, 2009). In recent years, in an effort to meet requirements within tight fiscal constraints, the Navy has embraced efforts to reduce costly ship manning with minimum crew sizes. Policy changes were instated that require fewer sailors to perform "condition-based maintenance" on ships, rather than the more labor-intensive, regularly scheduled maintenance checks. In 2002, the Navy changed its "Navy Standard Workweek" – the official guidance the Navy uses to determine the number of personnel required to man naval vessels. The revised workweek formula increased available work time for sailors – meaning that fewer people were required to perform assigned work.

The repercussions from the lean manning and expanded work week initiatives are thought to have contributed to the training burden on ships by further compressing work requirements into already-strained ship crew. These manning issues challenged the ability of division officers to find time to spend on the individually-paced SWOS-at-Sea CD-ROMS, not to mention, challenged the ability of other officers and senior enlisted onboard to find time to help guide and instruct these new officers in their OJT. (Bowman, Crawford, & Mehay, 2008) Because these concerns still remain, their impact on the new training is a concern for the present study.

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III. Methodology

Formative Evaluation

Because the SWO DIVO training is relatively new, it is not possible to capture outcome measures of effectiveness that might be linked to the training. Instead, a process, or formative, evaluation is typically conducted at this point and is commonly accepted by human resource professionals as a component of good training development. (Formative evaluation is specified in most instructional systems development models.)

Typically, formative evaluation is conducted early in a program to validate that the originally intended objectives are achieved—often through uncovering unintended effects or barriers. This kind of evaluation answers the basic question of whether the program is operating as intended. “Process measures examine what happens during instruction...the approach focuses on collecting information from participants and stakeholders to ensure that the program meets their needs... [and] inquires as to how the program can be improved.” (Goldstein & Ford, 2002) This study conducted a formative evaluation to determine if mid-course corrections are needed in the new SWOS training. Additionally, the CO of SWOS asked for the answers to these questions:

- Given the resource constraints, do we have it right?
- If given additional resources, what should we do?

Qualitative Data

While the study focuses on the new INTRO training, determining how well it is working also involves consideration of the interaction of that training with OJT on ships and with ASAT. To examine this ensign training pipeline, the study gathered and analyzed both qualitative and quantitative data. Qualitative data were obtained through a total of 110 in-person interviews. Originally, the intent was to specifically focus the research on the learning efforts at the ATGs. However, as it became apparent that many key players impacted and had valuable perspectives on the new training, the research focus broadened to include interviews with the following stakeholders:

- Ships: Officers who attended one or both of the new SWOSDOC courses; junior shipboard leadership (second tour division officers and department heads), and senior shipboard leadership (commanding officers and executive officers).

- Additional shipboard perspectives were gained from interviews with 27 post-command and five post-department head tour officers.
- ATGs: Commanding officers and INTRO instructors at San Diego, Mayport, and Norfolk.
- SWOS: SWOS leadership (commanding officer and staff).
- ASAT Course: Ensigns attending the SWOS-administered ASAT course.

Table 1 shows the rank/paygrade of each of the 110 persons interviewed.

Table 1: Interviewees by Rank/Paygrade

| | | | | | | | | |
|--------------------|-----|-----|-----|-----|-----|-----|-----|----------|
| Rank/Paygrade: | 0-6 | 0-5 | 0-4 | 0-3 | 0-2 | 0-1 | CWO | Enlisted |
| Total Interviewed: | 27 | 7 | 14 | 10 | 2 | 48 | 1 | 1 |

Interviews were conducted on ships in port at Norfolk, VA, San Diego, CA, and Mayport, FL. The shipboard interviewees represented the following ship types: Amphibious Warfare (one LPD), Destroyer (three DDGs), Guided Missile Cruiser (three CGs), Patrol Coastal (one PC), and Mine Warfare (one MCM, one MMC). The interview protocols are shown in Appendix B.

Of particular interest for the research were the ensigns who had experienced the new ATG training and progressed to ASAT. Because the first INTRO course was given in August 2008 and since officers attend ASAT about nine months into their first DIVO tour, it was not until May 2009 that a cohort of ensigns had completed the entire new training pipeline - both the INTRO and the new ASAT course. As a result, this was the first point in time that ensigns could be studied at ASAT who had been through the new training. Of 60 ensigns in the course (course number 248), 30 were randomly drawn for the researchers to interview. I like leaving the description on p. 31 and omitting it here.

The qualitative data were subjected to content analysis to extract the key themes mentioned by at least two-thirds of the interviewees.

Quantitative Data

SWOS keeps a very complete dataset of all students coming through ASAT including gender, ethnicity, rank, prior vs. non-prior enlisted, ship class, location, commissioning source, Officer of the Deck (OOD) qualification (yes vs. no), time to qualify, and ship department (e.g., Deck, Weapons, etc.). Analyses were conducted on these data to provide an initial indication of data trends. Of particular interest were scores on the division officer fundamentals test administered within the first few days of attendance at ASAT. Questions for the test are drawn from a database of approximately 1000 questions taken from the

CBT material used in the SWOS-at-Sea program, which is still available for reference but no longer required for the new training. This is approximately the same test that was administered to ensigns coming to SWOSDOC during the SWOS-at-Sea training period. Thus, the scores on this test can be compared for both forms of training and also offer a snapshot of skill levels of ensigns who have experienced the new, ATG training. While exam scores in maritime warfare and rules of the road are related more to ASAT training than INTRO, these data were also analyzed.

The ATGs do a “Persus” survey, which is maintained by CPPD. The survey is given at the end of the three-week curriculum and is reviewed by the ATG, SWOS, and CNSF. The researchers were able to review data from this survey for one course.

The term “snapshot” is used above to indicate that analyses are only an approximation of data trends for the new training. As with the SWOS-at-Sea program, there is enormous variability in the factors that may affect test scores. This variability is discussed further in the results section.

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IV. Results

A. ATG INTRO Course

This study looked at the processes involved in the ATG SWO introductory training, as well as its downstream impact on the training and performance that takes place subsequently on-the-job and at the ASAT course at SWOS. The study shows that independent of the subsequent training, one may conclude that the ATG training is working partially as intended. However, when viewed in the context of the entire DIVO training pipeline, factors are identified by this research suggesting changes that need to be made.

ATG Training

Turning first to the SWO introductory training, it has clearly leveraged ATG resources, provided a course in division officer fundamentals to new ensigns that has undoubtedly helped them make the transition to division officer responsibilities, and has created an opportunity for camaraderie and a sense of community that had been lost with the individually-based SWOS-at-Sea training. All of these improvements were specific outcomes desired in the shift to the new training. Like any new training, there are also improvements that can be made. The data collected from the interviews are discussed below for the key groups that have a stake in this training.

Feedback from the ensigns. Feedback from the ensigns was mixed. About half felt that the ATG training was useful while the others felt that it was not. All felt that ship visits were good, as were the panel discussions with senior officers and enlisted, simulator time, camaraderie developed, contacts made on the waterfront (ATGs encourage them to exchange e-mail addresses), and working with those who will inspect their ships. All agreed that they felt the course should have more time in the simulators as this was the most useful aspect of the course—even for those ensigns who had been on their ships for several months before coming to the training.

Ensigns felt that there were too many events in the three-week curriculum and many educators would agree with them. There are many topics and a full schedule. This is not optimal from a learning point of view and, in fact, many students complained about the “fire hose” method with no time to absorb the knowledge. They felt there should be more depth coverage in fewer topics, specifically those hard to learn of on ships. The objectives of this curriculum, and the courses that support them, should be reviewed to determine the number and depth of single course events to conduct.

Early in the implementation of the training, there had been complaints about the course being “death by PowerPoint” but it appears that the number of

PowerPoints has decreased at some ATGs with encouragement from leadership. Complaints were still heard from graduates of one ATG, but this was not the case other areas. In one area, for example, the CO of the ATG and the Commodore met with their instructors before every course and challenged them to find ways to teach that do not involve PowerPoint.

Most educators agree that extensive use of PowerPoint to “deliver” instruction is simply transmission of information—not education—and retention of the material is less likely than with other methodologies. PowerPoint is a default method of teaching that should be used sparingly. Rather, students are more likely to learn with interactive methods such as discussion—especially those involving personal, memorable experiences, exercises, hands-on practice with simulators or actual equipment, real-world scenarios, etc. Ensigns spoke highly of these kinds of methodologies where they had been exposed to them. A mix of methodologies exists to differing degrees at the different ATGs.

Students do not enter the ATG with the same skills due to differences in commissioning source and midshipmen cruise experiences, as well as differences in time already spent on assigned ship before attending INTRO. For example, USNA graduates take a semester-long course in SWO DIVO fundamentals right before they graduate. As a result, ensigns do not equally enjoy the training, nor do they leave equally capable; hence there is not a “standard ensign” arriving at the ship. The more experienced ensigns feel that most of the INTRO is a waste of their time, although they still value the simulator time, the networking, hearing from chiefs and senior leadership, and learning what ATGs inspect. This is reflected in one set of answers from a “Persus” survey that is conducted at the end of INTRO. In response to the question, “How much of the knowledge/skills taught in this course did you already know before attending the course?” The responses from one ATG event were:

Table 2: Amount (%) of INTRO Course Material Already Known Before Class

| | |
|-------------------------------|-------|
| Very little (less than 25%) | 16.7% |
| Some (26-50%) | 38.9 |
| Most (51-75%) | 38.9% |
| Almost all (greater than 75%) | 5.6% |

The data are limited by the small number of responses (18) but interesting enough to merit tracking in the future.

Less experienced ensigns like many aspects of the training but some of this group reported spending some time on their ships feeling embarrassed and frustrated about their lack of knowledge of how to run a division.

We want to come in and lead and manage but we don't have the tools. Sailors have more training than we do and we can't even fake it. A deck seaman gets more training than we do!

Many commented on how useful the ATG training could be if the ensign could get to the course directly after commissioning.

One change that could moderate these differences somewhat could be changes to the curriculum. It stands to reason that a curriculum originally developed for OCS ensigns would have elements there are too remedial for USNA and NROTC graduates. A needs analysis should be done to determine the most appropriate curriculum for USNA and NROTC graduates.

Further, the inconsistencies in how the training is received are exacerbated by how long the ensign has been on his/her ship prior to the training. This is a difficult problem given ship schedules. SWO leadership, including input from Ship COs, should determine the point at which a student can "validate" the ATG training. For example, does two months on deployment with the ship typically constitute a sufficient knowledge level of division officer fundamentals?

Most agree that a few weeks to a month onboard the ship prior to going to the ATG would be ideal. This is based on some basic familiarization to help connect the training to the real world and go with questions to ask. Some feel that to go straight to training after commissioning might just seem like "more school" and not very motivational. Another factor that comes into play is that once an ensign is assigned to a division, he or she may feel reticent to spend too much time away from the division so that officer's attention and focus becomes divided between school and work.

Additionally, if an ensign must wait too long for the training, there may be embarrassment and frustration at not knowing how to run a division; this was reported by some of the ensigns. Further, some of these ensigns commented that they felt that the curriculum at the ATG, while beneficial in many regards, gave them some false expectations. For example, one ensign said:

They told me not to worry about that...that my chief would help me with that. It turned out that I had no chief.

This story was not unusual at all, i.e., that the student had no chief or had a very weak chief who did not help them. They felt that knowing how to handle this kind

of situation would have been useful. Worth noting is that a decline in the capabilities of the Chief's Mess was suggested in a recent article by Eyre (2010). Ironically, Eyre singles out cuts to formal education for chiefs as one the causes of this decline.

Turning to a different issue—the need for dedicated training time—early in the implementation of the new training, ensigns were required by ship leadership to return to their ships each day after training to stand duty and tend to their divisions. Guidance from CNSF to stop this practice has slowed it somewhat, although in the period of the interviews (July 2009, October 2009, December 2009, and January 2010), there were still reports from some ensigns that they had been required to return to work after each day of training. A comment we heard numerous times was the following:

The ATG told us that if we have a problem with duty on the ship to tell them but I'm not going to complain to the ATG about my ship. Also, it depends a lot on what your job is and the ship's cycle.

In some cases, returning to the ship was self-imposed; ensigns did not want to be away from their divisions for very long.

Training in an FCA with close proximity to work turns out to be both an advantage and a disadvantage. It's a time to build contacts on the waterfront, but your ship is there to go back to so the training time is not dedicated. Ship leadership must find ways to support and communicate their value for the training.

A related concern is one that was not predicted by the researchers. A strong theme in the previous study of the SWOS-at-Sea program (Bowman, Crawford, & Mehay, 2008) was that ensigns perceived a negative message from the Navy. They felt that the lack of a formal, dedicated training program, such as those offered to officers in the air and submarine communities, showed the Navy's lack of value for the surface community. Many expressed how disgruntled they were with the Navy because of this and felt that it might cause them to leave at the first opportunity. Surprisingly, the ensigns undergoing the ATG training also feel that a short course taught by the ATG sends a negative message in spite of the fact that they acknowledge beneficial aspects of the training. In fact, the real harm here may be more in the signal that's sent than in the actual difficulties for the ATF instructors to carry out this collateral duty. Their comments were summed up in the following statement:

Why should going back to brick and mortar SWOS be off the table? We wouldn't dream of dropping guys from the aviation or submarine communities into equally important jobs with only three weeks preparation.

The fourth or leadership week of the course (taught by CPPD) received mixed reviews depending on how much of the material had been learned at the accession source (e.g., USNA graduates said that had “heard it all before” while at the Academy), and depending on the abilities and attitudes of instructors at individual FCAs. In one case, the instructors were two aviators who, while interesting, didn’t have much SWO credibility. Some instructors were rated positively while others were seen as poor instructors “just checking the box” with no value added (e.g., emphasis on finishing early). In a five-week course (and particularly in light of the value perceived in the types of activities conducted during the fifth week), one week or 20 percent of the training that may be of negligible value is significant. A thorough review should be undertaken of the fourth week with consideration of eliminating it.

The new fifth week of the course appears to be going well and is an excellent use of resources in the FCA. All ensigns interviewed said they benefited from the activities of the fifth week.

Feedback from the ATGs. The ATG instructors interviewed were all volunteers and expressed enjoyment of their teaching roles in the introductory course. They seemed to be a highly motivated group; many expressed satisfaction with the opportunities to teach and mentor young officers. Additionally all instructors are critiqued and those who get poor reviews are first helped then, if necessary, are not put in the teaching lineup again.

On the other hand, personnel, especially at the smaller ATGs, expressed concern for the drain on their manpower imposed by the work that is added on to their ATG mission.

The ATG instructors, like the ensigns, commented on the diverse skill levels the ensigns bring to the training. This presents difficulties for their teaching. One said:

About half in that class had already spent about six months on board their ships and there were brand new students who hadn’t had any ship time—this hampers the value of the training for everyone and the CO wants us to teach to the lowest common denominator. It can be hard to challenge the more experienced students.

Many instructors complained about teaching to the lowest common denominator.

On the other hand, there were several excellent practices for dealing with this diversity that were described for at one ATG. For example, the lead instructor gives pretests (she administers the final exam) to determine the mix of skills in each class, distributes the results to other instructors, and this helps them to tailor the approach to the extent possible within the fixed curriculum. She also

uses the more experienced ensigns to help in the class using them as subject matter experts. Last, the CO, the Commodore, and all of the instructors at this ATG hold an after-action-review at the end of each class.

All of the instructors interviewed felt that there should be more time for the number of course events offered. Like the ensigns, they felt there needs to be more “soak time.” They also felt the course should be extended to include completion of more qualifications and ship visits. One ATG CO said,

I believe we should remove some of the training burden from the ships and hand them a qualified DIVO in several areas (3M, DC, Boat O) upon completion of the SWO INTRO course at ATG. If we added a couple of weeks and a computer lab, we could then assign homework for the students to complete on the computers using the Navy programs (fitrep, award, message writing assignments) and also complete PQS qualifications...students would then report back to the ship with more qualifications completed and more prepared to assume DIVO duties and be an asset in many areas such as 3M.

Another theme of the comments from the ATG was that the success of much of what they do is dependent on collaboration with the ships, including ship visits for the students and visits to the ATG by ship COs and XOs—that this “makes all the difference.” Some of the ATGs are getting better waterfront support than others.

Another type of lack of support—and it’s not clear how widespread this is—is the department head who went through the SWOS-at-Sea program asking the ensign returning from ATG training:

So, how was your vacation?

Such comments completely undermine the value of the training.

While systematic feedback from the ships to the ATG and SWOS has been discussed, it is not clear that to what extent this exists at the present time. This is essential for the continual improvement of the course—especially if it remains in its current five-week configuration.

Feedback from the Senior Officers. All senior officers interviewed were asked to look at the curriculum and offer an opinion about it. None of the officers had seen it before and were very interested to do so. There were many suggestions—all involving more content and time needed in the course. One consistent theme was that almost all said they would like to see more 3M. Many said there should be more and newer cases used.

One concern that was raised was that if there was only a limited time available, the curriculum should focus on things that keep the ship safe; that the rest of it could come with experience. One former CO of three ships said:

BUT...can they do moboard? Can they give standard commands? Can they use a radio telephone? Can they land a helicopter? Do they understand what engineering casualties mean to them?

Many mentioned the value of time on the School Ships and in the simulators. A typical comment was:

Getting the no-pressure time on the School Ship is important; once they report to their actual ship, all eyes are watching them.

Overall, their comments reflected the desire to have ensigns report with as much training as possible, reflecting their concerns for the pressures on the ships and a desire to remove as much of that training burden as possible. One of the ship COs said:

The more they can do in the training, the better. Depending on where we are in the ship's cycle, it's hard to get the training done—especially with the glut of ensigns we have right now.

Such comments took on a more negative tone when some senior leaders on ships looked at the curriculum and concluded that what they should have learned was not reflected in their performance. In fact, we were told at one ATG that ensigns could do 3M spot checks when they completed the five-week training. The CO and XO of a ship in the same FCA said that was not the case.

Senior leaders engaged in extensive discussion about the inconsistencies of when the ensigns can report to the training and their need for a “standard ensign.”

There are so many possibilities for the timing given the ensign's background and the ship situation, you need to find a way to catch everyone; no ensign left behind!

This may be due in part to a wide misunderstanding of the objectives of the program. In spite of extensive communications about the new program, there are several understandings of what the objectives are or should be, and most officers above the level of ensign or lieutenant junior grade who were interviewed had no knowledge of what is in the curriculum. Almost every post-command CO interviewed felt that the ATG training should enable the new ensign to “hit the decks running.” They expect the ATG to relieve some of the burden on the ship as opposed to basic familiarization skills or even “survival skills” as intended in

the original course design. These are two very different objectives. The set of skills ensigns bring to ATG training cannot be controlled in the current design or configuration of the training. However, the problem of clear expectations can be addressed.

Like the ensigns, senior officers agree that a course taught by instructors who are not part of the SWOS organization, and who do it as a collateral duty, seems to send a message that the Navy is not serious about training new SWOs. One of these officers said:

The fact that ATG instructors are teaching as a collateral duty is a problem. If we are serious about training our ensigns, this should not be a collateral duty; it should be a primary duty. We keep piling more on people. If ATG does not get manpower requirements to teach this, it is a clear signal that we are not serious about the training.

A few ship COs and post-command COs expressed the desire to train the ensigns themselves, eliminating ATG training, in order to “ensure that they’re trained right; the way I want them trained.” If deployed when a new ensign arrives, the COs are certain that they will get better training than if at the ATG so the ATG INTRO training becomes unnecessary. Most agreed that:

Sea time is the best trainer.

Similarly, many complained about the hardships of losing officers to five weeks at the ATG and another three weeks for ASAT.

Along the lines of expectations, it was not unusual to hear ship leadership questioning what an ensign had learned at ATG. An ensign reported his CO saying:

This might be what they taught you but it’s now how we do it on the ship.

Such inconsistencies need to be eliminated—either in the curriculum or setting the expectations of the ships to understand what’s being taught and why. Strategic communications need to be developed to ensure that everyone understands and “owns” division officer training

Not surprisingly, all current or post-command COs feel that the CO should determine when is the right time, given the situation of the ship, for ensigns to go to INTRO training.

Aside from the many opinions of the new training, many agreed that it is better than nothing, as reflected in the next comment:

It is not the perfect solution, but it is better than no Introductory at all.

Or

It's something. It's better than what they got.

One lieutenant commander who understood the intended goal of the new training said:

The new curriculum looks good. It identifies a lot of the shortfalls. Guys were showing up on the ship and not knowing much.

Not everyone agreed, however. As one CO said,

A three-week course is not sufficient. Pair this with no chief [referring to a specific case] and it's a set-up for failure.

While most of the senior officers felt that the ATG training was an improvement over the SWOS-at-Sea program, they also were in favor of these a return to brick and mortar SWOS. At the same time, they acknowledged that the six-month version had been too long--"three to four months crammed into six!" That said, many felt that there had been discontent with the course for a long time but "the baby got thrown out with the bathwater." Most of this group felt that a return to a three- to four-month course at SWOS right after commissioning would be the best solution. Further, these officers feel that any DIVO course would be more properly taught by instructors at SWOS; that SWOS instructors have the right experience to be teaching the ensigns and that enlisted personnel at the ATG should not be teaching the ensigns.

OCS-SWOS Training

Ensigns commissioned through OCS were universally positive about their post-OCS training at SWOS. The researchers heard many positive comments about the depth of knowledge of the instructors as these ensigns looked back on their time in that training. This is dedicated training time for these officers with no requirement (either externally or self imposed) to return to the ship each night.

An obvious problem with the training is that the course doesn't have the access to fleet resources that the ATGs have so they can't get School Ship time and some of the qualifications possible in the FCAs such as the pistol or small boat qualifications. On the other hand, they can't be tasked by their ships.

Further, the OCS ensigns are not getting the fourth or fifth weeks that have been added on to the ATG course. If these are considered important enough to add to the ATGs, what kind of disadvantage is created for the OCS

students? This will become more of a problem if the number of OCS graduates increases. An important question of ship COs is whether they see a difference in the capabilities of the ensigns from OCS-SWOS trained ensigns vs. those from the ATG. Some thought that the OCS officers initially might not be as capable as those with the ATG training but caught up with time on the ship. Many added that the OCS graduates are “hungrier” to learn, as compared to USNA and NROTC accessions, when they arrive at the ship. The reality of so few numbers from the new training and the inconsistencies in when their ATG ensigns reported to the ship and the training, made it difficult for them to answer the question with any accuracy.

OJT

Turning next to the training involved on the ship as the ensign takes on DIVO responsibilities, there are both positive and negative findings and these broaden the considerations of any changes that might be made to the ATG course.

The ensigns’ perceptions of the ATG training and how that feeds into on-board training are a function of the training climate on board the ship. This depends on when they got the ATG training as well, as discussed above. While some reported that things were going well for them, others were more than unhappy about being left on their own to figure out how to run a division. The lack of focus on junior officer (JO) development results in major dissatisfaction that, no doubt, affects retention. When this is combined with dissatisfaction with the ATG training (or the message the Navy sends by limiting post-commissioning training to the ATG), it is a recipe for very low morale, poor retention, and potentially safety issues.

A group of ensigns on one ship all expressed outrage that no one was monitoring or guiding their progression to becoming SWO qualified. When asked if any guidance had been given, one ensign angrily threw down the list of publications and instructions and said, “I was told to read these.” They talked about a culture of:

‘Go figure it out; don’t screw it up’ doesn’t help us learn.

An ensign on another ship said who talked about the very steep learning curve that existed when he arrived at his ship said,

SWO knowledge is protected like a pot of gold you have to find yourself.

One ensign who was interviewed at ASAT told of her struggles to balance her work during progression toward SWO qualification with no help from her seniors. She reported working all day, being given a tasker at 1800, and told to

“go figure out how to do it.” Six hours later, she figured it out and also learned that she could have been finished much more quickly with just a small amount of guidance. She went home at midnight, slept, got up the next day feeling sleep deprived, and did it again. Where, she wondered, was there time for what she needed to do to get qualified? She said she would lateral to another community as soon as possible. Another ensign said,

Tell SURFOR that this culture of ‘get it done, don’t bother me’ is not the culture you want. This is where the negative perceptions of the community start. Many of my friends from USNA are getting out. You want a culture where leadership helps you learn the things you need to know.

Other ensigns told similar stories of being worked so hard there was no time to work on their qualifications and then getting “yelled at because our qualifications weren’t done.”

There is a part of the culture in the surface Navy that supports making things as hard as possible for JOs to “teach them to be SWOs,” and this is consistent with the new training, which even at its best is still fraught with difficulties. Clearly, some thrive on this culture, but are they the people the surface Navy wants to continually keep, thus perpetuating this culture? Are the people who leave those the Surface Navy should lose? More importantly, how will this continue to play with the younger generation that we know is remarkably different from senior leadership? Can the Surface Navy afford to keep alienating their JOs?

In the context of the Navy’s desire to be recognized as an organization of choice, what other good organization would not place higher value on training their people? In responding to Navy budget cuts, has the Surface Navy gone too far in cutting training?

As discussed earlier, increased requirements and decreased manning on the ships are related to complaints of a burden placed on the ship to train the ensigns. As noted by several senior officers:

Training the JOs drops off in the midst of all the tasks we have to do.

There is a big burden on the ships to train the ensigns. COs and other officers spend too much time giving the ensigns basic training, rather than spending time helping them get qualified.

Ensigns are inadequately prepared to board the ship and start performing. We cannot rely on the second-tour DIVOs, Department Heads, and Chiefs to compensate for insufficient prior training...ships are overstrained as it is and do

not have time. Chiefs today are also less seasoned—some of them are products of CBT themselves.

In addition to a time issue, senior officers talked about the inconsistency of the skill levels of the ensigns. As noted by the ATG staff and the ensigns themselves, these young officers report to the ATG with differing levels of experience and benefit differentially from the training—for some it's necessary and for some it may be time wasted. Ship leadership is not satisfied with receiving a non-standard ensign. As one CO said:

Big Navy needs to realign what we expect from the commissioning source and the ATG; ships need to know what to expect.

Another said,

While it has always been incumbent on the ships to train JOs, there used to be a level playing field. Now the level of knowledge and abilities is all over the place. The three-week course can't replace what SWOS used to do. We need to have a "standard ensign" showing up on the ship.

Not all senior leadership complained about the burden on the ships for training the ensigns, although this was the exception. Not surprisingly, the leader's positive attitude and the time he/she was willing to commit, and encouragement throughout the chain of the command to help develop the ensigns increases the chances that good OJT will take place. Even the SWOS-at-Sea program worked better where the CO created a command climate supportive of the training.

As an example, the researchers visited one ship, a CG, which had one of the highest numbers of qualified ensigns on the waterfront. The CO, XO, and Senior Watch Officer took great pride in explaining how they placed priority on the training. The ensigns on this ship were very satisfied with the training. Unlike other ships, not one complained about the onboard training. They attributed their good training to the "long hours—very long hours" the CO and senior watch officer had spent with them. This CO said he does walk-about to find opportunities to teach ensigns. The CO said:

I love helping grow new officers and take pride in watching them mature. I have an aggressive training plan.

An ensign in this command said,

The CO uses every opportunity to teach us. For example, during an UNREP approach...he's so proactive; he sits down with us regularly...I have

friends on other ships who don't have this and they're getting left in the dust. He has spent so many hours helping us get qualified.

There is no question that the new training creates a burden of training on the ship even where COs prioritize the development of junior officers - perhaps especially where the COs prioritize the development of junior officers. One ensign said,

Are you capitalizing on work that needs to be done to train this DIVO or are you saying they are in the way?

The new training in the FCAs puts division officer training on the backs of someone—either more senior people on the ship or the ensigns themselves - with frustration caused for everyone. The real question is how much of a burden is too much? And how does this vary in the ship's cycle? And, what are the costs incurred and do they really offset the cost of a brick and mortar SWOS?

One factor that could help to moderate the training problems is good mentoring. Of course, good mentoring will take place where there is a CO focused on creating a command of good JO development. However, many assume mentoring is taking place to a greater extent than it actually is. Obviously, mentoring is more important than ever in the context of the current training configuration. As one CO said,

Mentoring is more important now that there is no six-month SWOS. We have to do a lot more hand holding and spoon feeding; mentoring has helped to replace what they might have gotten at old SWOS.

In fact, mentoring is also important because there is a strong link between good mentoring and retention. (Johnson & Anderson, 2009) For those ensigns who feel disenfranchised by inadequate training or poor leadership, mentoring could make a difference in their confidence and attitude toward the Navy. One Lieutenant Commander said:

The Navy should be mentoring more than they do. They should look out for those who don't have mentors and might be falling through the cracks. I saw an ensign who was performing poorly. We switched him to a new department and he was awesome. It turned out his first department head had abused him—he was overworked and sleep deprived. Someone on the ship should have been looking out for him to see that it was not his fault.

One ship had a very active mentoring program. While mentors were assigned, which may not be optimal (Johnson & Anderson, 2009), they were assigned across departments to keep mentoring separate from performance

evaluation. This approach sends a message to the JOs that their leadership is concerned with their development.

We asked senior leaders to comment on the state of mentoring and most were confident that good mentoring occurs onboard ships. One problem we discovered is a difference in how mentoring is defined. For example, some see it strictly as job training provided by someone more senior as opposed to the broader definition of someone in the Navy who can offer a guidance ranging from professional choices to quality-of-life issues. The following are typical comments from senior leaders:

Mentoring is a part of good leadership; we have always done this.

Another aspect of assumptions about mentoring is seen in the comment we heard frequently:

Mentoring is a department head responsibility.

Because they feel that mentoring already goes on, they resent efforts to force mentoring. For example:

Big Navy is so out to lunch with the mentoring stuff. We do it every day. We don't need a formal program.

One CO expressed concern about on-line mentoring:

Just who are these people that have time to advertise themselves as mentors online? How qualified are they?

In October 2009 when we conducted interviews with 30 ensigns attending ASAT and asked specifically if they had mentors, and if they had used the on-line mentoring system, only two had heard of the system and neither had used it. When asked about face-to-face mentoring on their ships, the results were remarkably different from what we heard from the senior leaders. Some ensigns had a sponsor when they arrived at the ship but that person only showed them around when they first arrived. A few had mentors they had sought out. Most did not have mentors. Some said that mentoring on the ships fluctuated with individuals. For example, a story we heard several times was of a training officer, or a department head, who was actively involved in ensign training and also extended himself to mentor on personal issues. He had left the ship and no one had picked up those functions. One ensign said about his ship:

There are no mentors. The division officers help each other.

Such comments are consistent with those made by the 18 other ensigns interviewed on board the ships; few had mentors.

The Navy has put out instructions on mentoring and most would agree that mentoring is an important function for the Navy and for any organization. (Johnson & Anderson, 2009) The gap that exists in perceptions of mentoring between senior and junior officers should be addressed as part of a strategic communications plan.

B. ASAT Course

Qualitative Data. Thirty ensigns from class 248 were interviewed. Interviews focused on their initial training at either the ATG for USNA/NROTC graduates or at SWOS for OCS graduates. The research also asked the ensigns to talk about the ASAT course in relation to their previous training. Interviews were conducted the last day of the course before graduation.

A chi-square test of independence determined that Class 248 was representative of the prior 14 classes with respect to six demographic variables: gender, ethnicity, prior enlisted, rank, ship class, and department billet. Class 248 was somewhat dissimilar only with respect to commissioning source; class 248 had fewer officers commissioned through NROTC than the rest of the classes (24% vs. 35%) and more officers from OCS (34% vs. 21%). Overall, the sample half of class 248 reviewed in this section is considered similarly representative to the prior training classes.

The ASAT course received more positive support than the other parts of the SWO training pipeline. Ensigns appreciated a dedicated time to train:

SWOS puts a fence around us to training. It's a time to think about being a SWO.

The ensigns also appreciated the time they spend in simulators because they felt this was critical to offset decreased underway time. They value practicing in an environment where there are no consequences. Unfortunately, time in the simulators is limited due to competition with other schools in Newport.

There were many favorable comments about the SWOS instructors expressing appreciation for their depth of knowledge and concern for sharing it to develop JOs.

There were few negative comments but one consistent theme concerned the diversity in the classes.

It's difficult to have such a range of experiences in the classroom. Those without the OOD qualification are behind those who have it, and those who have it are getting slowed down by those who don't.

Last, there were many comments about ASAT covering training on platforms and warfare that aren't possible on their own ships. A typical comment was:

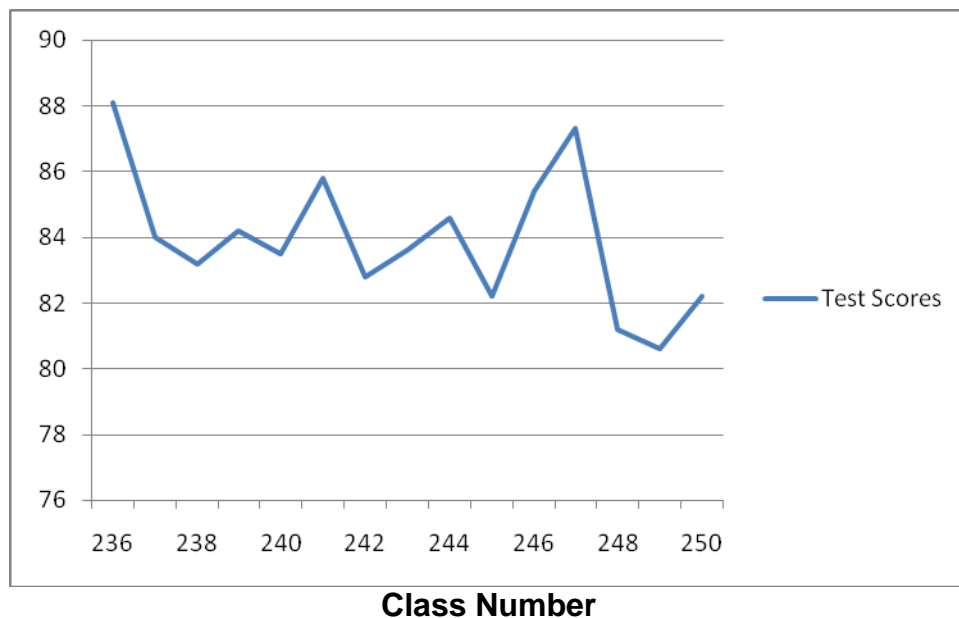
I got beyond the world of my CO and will now be better prepared to go to my next ship and now have a better appreciation for big Navy issues.

Overall, ASAT was appreciated as a good leveling experience.

Quantitative Data. The dataset obtained from SWOS contained the test scores and demographics for all of the ASAT classes for 2009. A summary of the analyses is contained in Appendix C while a brief overview is presented here. Due to limitations described below, these analyses are considered exploratory, only.

The first data examined were the mean scores for the division officer fundamental exam given within the first few days of ASAT. This exam is subsequently referred to in this report as "CBT" because the test is based on questions from the computer-based training, which was created for the SWOS-at-Sea program but is now available for reference and considered to be good coverage of DIVO fundamentals. These data offer one look at the knowledge of the students entering ASAT who were part of the SWOS-at-Sea program (classes 236-247 or "OLD") vs. those who experienced ATG or OCS-SWOS training (classes 248-250 or "NEW"). Of course, this is just an approximation of the effects of the training due to the variance in OJT that takes place between INTRO and ASAT. Nonetheless, it's interesting to note the downturn in entry scores for the new training as compared to the old. These average test scores are shown in Figure 1.

**Figure 1. Average Division Officer Fundamentals
Test Scores, by Class
(Percentages)**



The differences are small but statistically significant (as indicated by t-tests shown in Appendix C) that performance is lower for the students who had the new training as compared to the old. One explanation of the downturn in scores with the new training could be that the OOD qualification letter is no longer required for attendance at ASAT. However, the days to get the qualification were not significantly different in the new vs. the old classes. Nonetheless, differences of four to five percentage points are not significant in a practical sense.

Analyses also show that Rules of the Road (ROR) and Maritime Warfare (MW) scores were significantly higher for students in the OLD vs. NEW training but, once again, the differences are very small. Further, there are only three classes of the NEW training.

The analysis of variance was used to test each of the explanatory variables for their effects on the test scores at ASAT. (Note, again, that the entry test is referred to here as “CBT” because it is based on questions from the computer-based training.) LDOs and CWOs were removed from these analyses.

Once again, the actual differences between the mean scores are very small. For example, the average CBT score for men was 84.4 while the average for women was 82.2. The quantitative data analyzed here can only be considered very preliminary. To more fully understand performance at ASAT, it will be necessary to look at a data set that contains more data from students who have

gone through the NEW training, and to run the more sophisticated regression analyses. With these qualifiers stated, we can call attention to a few areas where there were significant but small differences that may deserve attention in future analyses when more data are available:

1. Women don't perform as well as men at entry to ASAT but perform the same on the test scores that are based on ASAT training. We found this same result in our previous study (Bowman, Mehay, & Crawford, 2008).
2. While "other" ethnic groups don't do as well as the Caucasian group on the ASAT test scores, they qualify sooner under the NEW training as compared the OLD and sooner than the Caucasians, while Caucasians perform about the same under both forms of training. Again, the numbers are very small in the dataset for those who have had the NEW training: 87 Caucasians and 22 others.
3. There were some differences as a function of the department billet occupied by the student, commissioning source, and ship class.

While this exploratory data analysis could not provide conclusive results due to the small data set under the new training, it suggests value in conducting future, more sophisticated analyses as more data is completed. For a complete summary of results, see Appendix C. Conclusions and recommendations are discussed next.

V. Conclusions

The SWO DIVO training pipeline has evolved significantly in recent years until reaching its current, third version. Each of the three versions achieved different objectives at different costs and repercussions. The current version, the INTRO-ASAT pipeline, has demonstrated that it is an improvement from the previous SWOS-at-Sea version and benefits have already been realized. However, this current pipeline still has drawbacks and potentially hidden costs; it can be improved. Thus, while we conclude that the direction and format have changed for the better, we also conclude that the most recent SWO DIVO training has had several unintended consequences and that the training design should, once again, be revised. The answers to the two research questions posed by the CO of SWOS are:

1. Given the resource constraints, do we have it right?

It's a good start, but not yet where it should be. Conclusions to support this answer follow.

2. If given additional resources, what should we do?

Suggestions for change supported by this research are detailed in the recommendations section.

ATG INTRO Training Benefits

The INTRO course has increased familiarization with fundamental DIVO basics; provided an opportunity to recapture the camaraderie created by brick and mortar SWOS but absent in the individualized SWOS-at Sea program; allowed ensigns to build contacts on the waterfront and to see first-hand how the ATG inspects ships; and provided greater practical, hands-on exposure for entry-level SWOS and enabled them to report to their ships after INTRO with greater knowledge and confidence than their SWOS-at-Sea predecessors.

The new training has clearly leveraged ATG assets. This program was stood up quickly by ATG instructors who have a different mission than teaching DIVO fundamentals but who have risen to the occasion with motivation and concern for teaching and mentoring junior officers.

ATG training has been improved several times since inception by the ingenuity of SWOS and ATG instructors who have capitalized on valuable local waterfront teaching resources (the fifth week has been well received by all); looking for innovative ways to teach diverse groups; and making curriculum changes

SWO DIVO Pipeline Concerns

Other studies reviewed in the present research underscore the importance of the initial training individuals receive on entering organizations. This training creates expectations about organizational behaviors, values, and culture and is linked to job satisfaction and retention. Leader support for initial training is also critical. In spite of the benefits of the ATG training, we conclude that it is insufficient to support the desired outcomes of entry-level training—especially when considered in the context of subsequent OJT.

A training needs analysis should identify clear training objectives; the training strategy should reflect those objectives, and the resulting training plan should prescribe how the training strategy should be implemented and how the objectives are to be met. However, there is an apparent lack of clear objectives for the SWO DIVO training. The direction was changed for the better, but there is no clear indication that the direction set was based on the results of a thorough training needs analysis. That is, if clear objectives exist, these objectives are not known out in the fleet. There is evidence of inconsistent expectations of the INTRO course among SWOS, ship leadership, and junior officers / students. For instance, many senior- and mid-level officers perceive the objective to be for the ensigns to report aboard the ship already qualified in some capabilities, which may not be a top objective of the course developers. The result is frustrated leadership expectations of an ensign “who will hit the decks running” that is not matched by the actual training. Requirements for the course should be reviewed.

Ship leadership, particularly at the CO/XO/post-CO level, was found to be generally unaware of the course content and curriculum. There appears to be a disturbingly low level of involvement in and awareness of INTRO by ship leadership. In addition, there is some evidence that officers at the department head level do not demonstrate support or value for their ensigns’ now five-week training; this type of attitude, however seldom it occurs, is counterproductive.

We conclude that, in spite of extensive communication about the goals of the ATG training, the objectives are still not understood, or that they have somehow morphed from the original intent. The result is frustration created by multiple understandings of what the training can accomplish.

When ship leadership looked at the curriculum matrix and were asked for their opinions, they had mixed responses except that all wanted more than was there and almost all wanted more 3M. There is a strong feeling among this group that this course is still inferior to the legacy six-month SWOS course or any form of dedicated and more in-depth training. Ensigns and ATG instructors agreed that the course should be longer. Naturally, the knowledge provided by the five-week INTRO falls short of the benchmark set by the old, six-month SWOS, which offered time to take a wider and deeper approach to the curriculum; this attitude

is quite widely held by ship leadership and colors their perception and expectations of the course.

The researchers' conclusion about the curriculum matrix is that there are probably too many events to allow enough time to allow the students to fully absorb the material; students complain about the "fire hose." Further, there is a concerted effort among some ATGs to avoid "PowerPoint Fatigue" and to emphasize more interactive teaching methods. However, this practice is not widespread and, when compounded by the number of events in the matrix, learning may suffer.

Little was known by the ATGs about the additional week of Leadership Training, taught by the Navy's Center for Personal and Professional Development (CPPD). While this was out of the scope for this study, it impacts the INTRO course in that it adds another week in training. In general, there was a sense among the ensigns and the ATG instructors that there might not be much value-added by this Leadership Course.

Senior leaders interviewed feel strongly that SWO junior officers should be taught by SWOs to produce consistent training. Many further commented on their desire for junior officers not to be taught by ATG personnel on collateral duty, and not to be taught by enlisted personnel. They feel that the training is potentially inconsistent and not of the depth needed to produce a "standard ensign."

ATG instructors comment on the inconsistencies in the background of those who come to the ATG and the difficulties this creates for them to teach "to the lowest common denominator." In the same class one may find USNA students who have had a semester-long course in DIVO fundamentals alongside NROTC students who may have never had a midshipman cruise and/or received insufficient training at their units. The INTRO training may be a wasted effort for USNA graduates while much needed by NROTC students. One might also argue that a curriculum appropriate for an ensign commissioned by OCS will be too remedial for either USNA or NROTC graduates. This further reinforces our conclusion that objectives for the training need to be revisited.

Inconsistencies are also introduced by the time that elapses before the ensign reports to the ATG. If the ensign has been deployed for even just a few months before reporting to the ATG, his/her time there will likely be a wasted effort.

Another inconsistency is posed by the different treatment given to OCS graduates who receive only the three-week course while NROTC and USNA graduates receive two more weeks of training in leadership and the fleet resource week, respectively. OCS ensigns were very favorable about their

training, but if the fourth and fifth weeks added on to the course for USNA and NROTC officers are important, OCS graduates should get the full configuration. This design should be reviewed.

Holding the INTRO training at the Fleet Concentration Centers is both positive and negative. The ATGs are able to take advantage of local waterfront resources, such as using designated school ships, arranging for tours of other platforms, and using local training simulators. This is an improvement over the legacy brick and mortar venue and actually offers a blended approach between classroom instruction and hands-on, real-life applications. However, there are several factors that may offset this advantage. Key is that this is not dedicated training. While CNSF asked that ensigns not be called back to their ships for duty, we found that this practice still exists in some areas. Further, if the ensign has been on the ship long enough to assume DIVO responsibilities, he/she wants to go back to the ship to stay “plugged in.” Training in the proximity of one’s ship, then, is both an advantage and a disadvantage.

All of the issues mentioned above converge on one key disadvantage of the ATG training: both ensigns and senior leaders take a negative message from the Navy about the value it places on the community, the training, and the ensigns. This is the issue most relevant to the literature mentioned earlier on entry-level training. The lack of standardization, timing issues, and training being done by volunteers as collateral duty vs. manpower requirements for this kind of instruction conveys a lack of concern and reinforces the old image of SWOs as second-class citizens. As one ensign said,

If you don’t care, I don’t care. I’ll do it in spite of you [get qualifications done] but I won’t do it for very long.

The additional, related issue discussed by ATG leadership is the drain on their manpower resources—particularly at the smaller FCAs.

Possibly the most important issue raised in this formative evaluation is that the current program still relies heavily on ongoing shipboard training of DIVOs. The INTRO course does indeed provide officers with a good jumpstart at their start of their tour, as compared to the experiences of those under SWOS-at-Sea. However, once the five-week INTRO course is over, the training burden is still on the ships. As discussed earlier in this report, the impact of lean manning initiatives, compressed schedules, and ensigns with widely divergent skill levels continue to limit the time and attention the ships’ officers and senior enlisted can devote to DIVO training. While there is an admirable effort by some to emphasize the value of junior officers, there still appears to be an ongoing culture onboard the ships that concerted efforts to develop junior officers take lower priority than other, more pressing matters. Regardless of the cause, the result is

a continued heavy training burden on the ships that is hard to carry, and yet another signal to the junior officers that they aren't valued.

While SWOS-at-Sea was considered a failure overall, there were places it worked and those were where the leadership were actively involved in making it work through the chain of command. The same is true of this program; it all comes back to leadership.

The analysis of the test score data from ASAT compared a rather small number of cohorts who completed both INTRO and ASAT with the larger number of cohorts who completed SWOS-at-Sea CBT and ASAT. The comparison showed significant but very small differences in both the training taken (students in the old training performed better than students from the new training on the entry test ASAT) as well as some of the characteristics of students who attended SWOS (e.g., women scored lower than men on the first test at ASAT). These analyses were undertaken only as a preliminary look at the data and cannot be considered conclusive until more students who have taken the ATG training attend ASAT and more sophisticated analyses are conducted.

Further, caution should be taken not to focus solely on test scores as an indicator of the value of the INTRO classroom venue over the independent CBT venue. As mentioned earlier in the report, the socialization that occurs in training – particularly in orientation or first training—is valuable. Also important is the sense that the officer is valued enough to receive formal schooling. These factors can increase job satisfaction, organizational commitment, and, ultimately, retention. So, even if the test scores were about the same, indicating both training pipelines might result in similar knowledge and simulator skills, the short- and long-term intangible benefits of the classroom INTRO offer meaningful, if non-quantifiable, benefits.

Concerning the time spent at ASAT, students value the dedicated school time to learn and reflect on being a SWO. The school provides a leveling effect for all students to learn about the surface Navy beyond the confines of their own ships and they particularly value the simulator time to help offset decreased underway time. The instructors are perceived to be knowledgeable and helpful, but some difficulties result from students' diverse range of shipboard experiences, deployment time, and attainment of the OOD qualification. This diversity appeared to create minor difficulties in setting the appropriate pace in the class.

Last, we conclude from the research that there is a gap in perceptions of mentoring; senior leaders believe that mentoring exists to a far greater extent than junior officers report. This is critically important given that the ATG training was predicated on substantial OJT for which mentoring is a critical aspect and the direct relationship between mentoring and retention.

Overall Conclusion

The Surface Warfare Community has made impressive and creative efforts to train their junior officers while responding to budget constraints, but there have been some unintended consequences—not surprising, given the many moving parts that must be managed. This research supports the need for the community to continue to improve the DIVO training.

VI. Recommendations

As the first and foundational training for future leaders, effective SWO DIVO training must be the first consideration in spite of Navy budget constraints. SWO ensigns need and deserve formal, dedicated training such as that devoted to most other service communities, especially within the unrestricted line. These junior officers are being placed in positions of great responsibility where the chances for mishaps are always present. The Surface Warfare Enterprise should examine the costs saved by the ATG training against all other benefits as well as potential consequences such as issues of safety, dissatisfaction (alienating the JOs and frustrating ship leadership), morale, retention, and the additional stress on all personnel involved in training ensigns.

The community should begin by conducting a needs analysis to weigh all stakeholder input against all possible outcomes; budget cannot be the only driver for this important training. Once a new training design is determined, all objectives should be aligned with training events and the community will be postured to measure the effects. A needs assessment will concurrently serve as a risk assessment.

The analysis should be done with an open mind toward expanding the course, in spite of the increase in costs that will come with it. The research shows that this is strongly supported by ensigns, ship leadership, and the ATGs. Once the appropriate configuration is decided, a considerable foundation already exists to build course content including the current course, the course run for SWOs at USNA, and of course the considerable expertise resident at SWOS.

All ensigns should be required to take the training before reporting to their ships, as with the old SWOSDOC. While more difficult logistically, ensigns will report to their ships better prepared, they will arrive as a more “standard ensign,” ship personnel will have less of the training burden and be better able to continue their training and help move them through their qualifications.

The analysis should include the fourth week of leadership training given in the FCA, even though it is not developed or administered by SWOS. The value of this week was called into question by many who were interviewed in this study and it currently accounts for 20% of the initial INTRO training.

A revised INTRO course should be taught by Surface Warfare Officers. Instructors in coded billets with appropriate instructor training, and in-depth knowledge of SWO work demonstrate the value the community places on the training and would ease the manpower strain on the ATGs. Keeping the training in the FCAs would permit SWOS to capture the learning opportunities present at the waterfront.

The new training should include officers commissioned through OCS to reduce some of the variability in the skill levels of SWO junior officers. This will, again, greatly benefit the JOs as well as the ships' personnel by providing more consistency.

The advantage of teaching at the FCAs is to take advantage of the resources in the area that could result in training potentially better than SWOSDOC, to which so many desire a return. Some of those interviewed for this research suggested combining INTRO and ASAT to save costs; this should be considered, too.

Develop a strategic communication plan to increase training awareness among the stakeholders (especially ship leadership) and to ensure there are consistent expectations and support for the course and the pipeline. The communications plan should also address mentoring and the importance of the link between mentoring and good training and retention.

Add a short section to senior SWO training on familiarization with the DIVO training configuration, the importance of mentoring, and the importance of their roles in supporting whatever DIVO training configuration exists.

Create a systematic feedback loop from the ships to the training. Clear objectives derived from the proposed needs analysis will create the basis for accurate feedback.

Continue to analyze performance of officers who have now attended both INTRO and ASAT (since at the time of this study, there was only a small cohort of officers who had attended both). As numbers grow, conduct regression analysis to look for possible indicators of high performance. A student data tracking system could categorize students by characteristics (commissioning source, gender, ship type, department assigned to in first DIVO tour, test scores in INTRO and ASAT, etc.). Such a system does not appear to be collectively and identically gathered at both courses and could offer the opportunity to find ways to continually improve the courses.

If the current configuration of ATG-administered training is kept, the following changes should be made:

- Use the needs analysis to revise the curriculum to focus on those events deemed most important and to reduce the number of events to permit “soak” time for the students.

- Include new cases and hands-on time wherever possible in the curriculum. Instructors may need to be trained to teach using cases and should be helped to learn to teach rather than “transmit” via PowerPoint.

- Add dedicated instructor billets to eliminate manpower strain on the ATGs.

- Allow the ATGs to continue to have the flexibility to enhance the required curriculum with location-specific opportunities of local resources.

- Develop processes to more formally capture share best practices across the ATGs.

- Analyze Persus survey data over time to monitor trends.

- Create processes to validate attendance at all, or even part of the training based on time available to attend, or commissioning source background. For example, USNA grads should be able to skip the leadership week and much of the basics but attend for hands-on and leadership meet and greet evolutions. This will require ship training officers and department heads to be thoroughly familiar the ATG curriculum to make informed decisions for their ensigns. This will benefit all concerned including creating more homogeneous ATG classes.

- Give OCS graduates one week of SWO-related training then send them to their FCA to experience the ATG training with their USNA and NROTC counterparts.

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Appendix A: Sample Three Week INTRO Curriculum

| WEEK 1 | | | | |
|--|---|--------------------------|--|---|
| Navy Familiarization and Division Officer Administration | | | | |
| 7:30 | | | | |
| 8:00 | Student Class | Check-in | Manning: MPA/SMD/EDVR & Schools (DF-7) | Underway Watchstanding (NS-26) |
| 8:30 | Meet and Greet (Admin-1) | Picture Greet | | Intro to Navy Message Writing (DF-14) |
| 9:00 | Customs, Courtesies, Honors & Traditions (NF-3) | Standard Commands (NS-2) | Introduction to Shipboard Watchstanding (NS-4) | Message Writing- OPREPS (DF-15) |
| 9:30 | | | Intro Admin/SORM (DF-3) | |
| 10:00 | SWO Career Path (NF-1) | CO Seminar/Panel (NF-2) | Career Counseling (DF-6) | Message Writing Practical - OPREPS (DF-18) |
| 10:30 | | | | |
| 11:00 | DOD/Ship Org (NF-5) | VADM Curtis Visit | DIVO Seminar/Panel (DF-4) | *LUNCH*/PT PT Gear |
| 11:30 | | | | |
| 12:00 | Shipboard Evolutions (MW-3) | Emergency Actions (NS-7) | *LUNCH*/PT PT Gear | Message Writing- CASREPS (DF-17/19) |
| 12:30 | *LUNCH* | *LUNCH* | | |
| 13:00 | Intro to Navy OPS (NF-8) | CAPT SURFOR N7 | School Ship #1 (Bridge Familiarization, RHIB Training) USS Stockdale Coveralls/Safety Shoes | |
| 14:00 | | | | |
| 14:30 | Enlisted Ratings (DF-1) | OOD Fundamentals | | |
| 15:00 | Legal Perspective for Divo (DF-9) | | | |
| 15:30 | CWC Overview (MW-4) | Divo Supply (EN-10) | | |
| 16:00 | Intro to CIC (NF-6) | R/T Procedures (NF-7/7A) | | |
| 6:30 | | | | |

| | WEEK 2 | | | | |
|-------|--|--|--|---|--|
| | Navigation, Seamanship, Shiphandling and Watchstanding | | | | |
| | | | | | |
| 7:30 | | | 2nd Class Swim Certs are Due! | Power Point Presentations are Due! | |
| 8:00 | Introduction to Navigation (NS-12) | Introduction to Navigation Brief (NS-23) | Navigation Case Study (NS-1A) | Rules of the Road 3 (NS-13) | 2nd Class Swim Qualification Testing (SQ-1) Swimsuit/Goggles |
| 8:30 | | | | | |
| 9:00 | GPS and Electronic Navigation (NS-15) | Man Overboard Procedures (NS-10) | USS Roosevelt/USS Leyte Gulf Collision | MoBoard Review 2 (NS-25) | |
| 9:30 | DH Seminar/Panel (DF-2) | | | MoBoard Review 1 (NS-20) | |
| 10:00 | | MoBoards - Wind (NS-24) | | Basic Shiphandling (NS-3) | |
| 10:30 | Rules of the Road 1 (NS-9) | Underway Replenishment (NS-8) | MoBoards - Change of Station (NS-18) | | Rules of the Road Exam (NS-19) |
| 11:00 | | FITREPS and Evals & Homework (DF-8) | | Introduction to Surface Warfare Training Programs/Reqs (DF-10) | Eval Homework Debrief (DF-8A) |
| 11:30 | | *LUNCH*/PT PT Gear | | LUNCH | |
| 12:00 | | *LUNCH*/PT PT Gear | | | |
| 12:30 | | | | | *WORKING LUNCH* |
| 13:00 | Compass and Time (NS-14) | | MoBoards Formations (NS-21) | | |
| 13:30 | MoBoards - Tracking/CPA (NS-17) | Navigation Case Study (NS-1) DDG 963 Collision with tanker | | BLDG 127 Enlisted Service Record/Divo Notebook/RADM (DF-5) (DIVO Admin, RADM Practical) | |
| 14:00 | | | | | |
| 14:30 | Rules of the Road 2 (NS-11) | CDR | Rules of the Road 4 (NS-16) | | |
| 15:00 | | | | | |
| 15:30 | | | | | |
| 16:00 | | | | | |
| 16:30 | 8 Hours of NSST Sessions are Scheduled in the Evening | | | | |

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|--|
| Maritime Warfare, Damage Control and Engineering |
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| | | | | | |
|-------|---------------------------------------|---|---|---|------------------------------|
| | | | | | |
| 7:30 | | Damage Control Wet Trainer Coveralls and Safety Shoes required | | | |
| 8:00 | DC Organization (EN-1) | | Propulsion Overview (EN-14) | DC Exam (EN-9) | EOSS/CSOSS (EN-15) |
| 8:30 | Fires and Extinguishing Agents (EN-2) | | 3M Spotcheck and Program (EN-13) | DC Exam Debrief (EN-11) | Tagout Program (EN-7) |
| 9:00 | | | | Zone Inspection / Self Assessment and Practical (EN-12) | |
| 9:30 | | | | | |
| 10:00 | ORM/Safety (EN-6) | | CPO/SEA/CMC Seminar/Panel (NF-4) | | Navy Missions Seminar (MW-5) |
| 10:30 | | | | | |
| 11:00 | *LUNCH*/PT PT Gear | | *LUNCH* | *LUNCH*/PT PT Gear | Leadership |
| 11:30 | | | | | |
| 12:00 | | | | | |
| 12:30 | | Basic Gas Free (EN-4) | Electric al Safety Program (EN-8) | Comprehensive Final Exam (Admin-2) | |
| 13:00 | | | | | |
| 13:30 | Personal Protective Equipment (EN-5) | | | | *LUNCH*/Graduation |
| 14:00 | | | | | |
| 14:30 | Student Platform Presentations (MW-7) | Intro to Surface Combatants (MW-1) | School Ship (Spot Check, Tagout, Zone Inspection, Messing and Berthing) Coveralls/Safety Shoes | | |
| 15:00 | | Intro to Other Navy Platforms (MW-2) | | | |
| 15:30 | | | | | |
| 16:00 | | Strike Group Operations - Brief (MW-6/6A) | | | |
| 16:30 | | | | | |

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Appendix B: SWO INTRO Course Interview Protocols

ATG Interview

Is there some ideal time frame for moving the ensign from commissioning to ship to the ATG?

Do you do pretesting? Post-testing?

Do you get any feedback from ships?

Do you do after-action reviews?

Is there a feedback loop to SWOS for things that work well (including best practices) and things that should be improved?

What changes did you make to the training materials sent by SWOS?

What other changes should be made to the content of the curriculum, e.g., objectives, time spent, or changes to content...added or deleted?

Do you have sufficient manpower to take on this extra work at the ATG?

Is instructor duty voluntary?

What kind of training and/or mentoring is there for instructors?

Do you bring in guest speakers? If so, who?

Is the notion of a “school ship” unique to San Diego or was this suggested by SWOS?

What kinds of practices have you or your command put in place to enhance the effectiveness of this training opportunity? (We are looking for best practices here.)

How did you use the “fifth week”?

CO, XO, DH

How is the new training going for you?

Do you see any difference between the ATG and the OCS grads?

Are there any gaps in the curriculum you are aware of?

What is the ideal timing for commissioning, training, assuming DIVO duties?

Are you providing any feedback to the ATG or SWOS?

Do your ensigns have mentors (be clear on their definition of mentoring)?

Do you use the CBT (former SWOS-at-Sea training), e.g., as a reference?

Who is the belly button for SWO and O training on board this ship?

SWOS Staff

Should anything be changed in either the SWO Intro or ASAT curricula?

How is the timing of the ASAT working out? Should it be changed?

Do you have knowledge of whether your students have mentors on their ships or if they use the e-mentoring system?

Is there a way to measure the success of both courses?

SWOS Ensigns

Commissioning Source_____

Prior (Y/N) _____

DOR _____

OOD Qual/Date _____

SWO Intro Course

How many months ago and where did you attend the SWO Intro course?
How much time elapsed between commissioning and attending the course?
Do you think there is an ideal time for this sequence of events?
Should anything be changed in the SWO Intro training?
Did you make use of the CBT? If yes, in what way?

Shipboard Phase

How did that phase of your training go? Should anything be changed?
Do you have a mentor? How does he/she help?

ASAT

How is/did the ASAT course go. Were you prepared for it? What worked really well and should anything be changed?

Overall

If you could change the structure or content of the SWO DIVO training pipeline, how would you change it?

Appendix C: Summary of Data Analysis

ASAT Test Analysis: Summary Table

| | CTB | ROR | MW | OOD qual |
|-----------------------|-------------------|---------------|-------------------|-----------------|
| Training | Old > New | Old > New | New > Old | No difference |
| Gender | Men > Women | No difference | No difference | No difference |
| Prior Enlisted | No difference | No difference | No difference | No difference |
| Ethnicity | White > Other | White > Other | White > Other | Mixed result |
| Dept. Billet | Deck lower | No difference | Deck mixed result | No difference |
| Comm. Source | USNA mixed result | No difference | No difference | No difference |
| Ship Class | DDG, FFG higher | DDG higher | DDG higher | No difference |

Effect of Training Method and Other Explanatory Variables on Course Test Scores and Time to Qualify for OOD

The outcome variables are the CBT test score, the ROR test score, the MW test score, and the number of days between commissioning and OOD qualification.

The basic comparison is between classes '236' through '247', which used the OLD training protocol, and classes '248' through '250', which used the NEW training protocol. The two groups are identified by the TRAINING variable.

The analysis data set only includes commissioned officers (excluding warrant and limited duty officers) with designators 1160 or 1167.

Comparison of Course Test Scores Between Training Groups

The average for each outcome variable when TRAINING=OLD is compared with the average when TRAINING=NEW.

The statistical comparison is done with the t-test assuming unequal sample variances. A 0.05 significance level is selected. The t-test results were all confirmed with the non-parametric Wilcoxon test which does not assume normality.

CBT

The OLD average 84.6 is significantly higher than the NEW average 81.4.

ROR

The OLD average 95.9 is significantly higher than the NEW average 94.8.

MW

The NEW average 88.7 is significantly higher than the OLD average 86.6.

Time_OOD_Qual

The OLD and NEW averages are not significantly different. The Wilcoxon tests also did not find any statistically significant difference.

Combining the Training Variable with Other Explanatory Variables

The **analysis of variance** is used to test the training variable with each of other explanatory variables individually for their effect on the outcome variables.

The other **explanatory variables** are gender, prior enlisted, ethnicity, department billet, commission source, and ship class.

The analysis of variance fits a linear equation. The training variable, one other explanatory variable, and the interaction term between them are fit to the four outcome variables.

Analysis is most straightforward when the number of observations in each combination of the explanatory variables is the same. Given this observational data, this condition is rarely the case. For example, the following are sample sizes for gender and training.

| | Old Training | New Training |
|--------|-----------------|-----------------|
| Female | 161 | 46 |
| Male | 474 | 140 |

Because of the **unequal sample sizes**, the effect ("sum of squares") of each explanatory variable changes depending on the order in which each is fitted to the linear model.

The explanatory variables are fit in two ways.

- Type I: sum of squares for each explanatory variable if it were fit before the other.
- Type III: sum of squares for each explanatory variable if it were fit after the other explanatory variable.

It does not matter that the fitting order affects the sum of squares as long as F-statistic leads to same conclusion.

The **interaction term** is fit after both explanatory variables are included in the equation.

If an explanatory variable is found significant, the **Tukey's Studentized Range Test** is used to look at which means might stand apart from the others. The significance level is set at 0.05.

Analysis of Variance: Training and Gender

CBT

Male officers scored an average of 84.4 and women officers scored 82.2 on the CBT. This difference is statistically significant different at the .05 level.

The interaction of gender and training for the dependent variable CTB is not statistically significant

The order of fitting the variables gender and training had no effect on the conclusions.

ROR

The ROR test averages for male and women officers are not statistically different (95.7 and 95.6, respectively).

The gender-training interaction for the dependent variable ROR is not statistically significant.

The order of fitting the variables gender and training had no effect on the conclusions.

MW

The MW test averages for male and women officers are not statistically different (87.0 and 87.4, respectively).

The gender-training interaction for the dependent variable MW is not statistically significant.

The order of fitting the variables gender and training had no effect on the conclusions.

Time_OOD_Qual

The average days to OOD qualification for male and women officers are not statistically different (527 days and 507 days, respectively).

The gender-training interaction for the dependent variable time_OOD_qual is not statistically significant.

The order of fitting the variables gender and training had no effect on the conclusions.

Analysis of Variance: Training and Prior Enlisted

CBT

The officers with prior enlisted service and officers without prior enlisted service averaged scores on the CBT test which were not statistically different (84.3 and 83.8, respectively).

The interaction of prior enlisted and training for the dependent variable CTB is not statistically significant

The order of fitting the variables prior enlisted and training had no effect on the conclusions.

ROR

The ROR test averages for officers with prior enlisted service and officers without prior enlisted service are not statistically different (95.9 and 95.6, respectively).

The interaction of prior enlisted and training for the dependent variable ROR is not statistically significant

The order of fitting the variables prior enlisted and training had no effect on the conclusions.

MW

The MW test averages for officers with prior enlisted service and officers without prior enlisted service are not statistically different (86.6 and 87.2, respectively).

The interaction of prior enlisted and training for the dependent variable MW is not statistically significant

The order of fitting the variables prior enlisted and training had no effect on the conclusions.

Time_OOD_Qual

The officers with prior enlisted service and officers without prior enlisted service had time to OOD qualification averages are not statistically different (506 days and 526 days, respectively).

The prior enlisted-training interaction with time_OOD_qual is not significant.

The order of fitting the variables prior enlisted and training had no effect on the conclusions.

Analysis of Variance: Training and Ethnicity

Officers' ethnicity is grouped in "Caucasian" (n=612) and "Other" (n=193)

CBT

Caucasian officers scored an average of 84.7 and non-Caucasian officers scored 81.1 on the CBT. This difference is a statistically significant different at the .05 level.

The interaction of ethnicity and training for the dependent variable CBT is not significant.

The order of fitting the variables ethnicity and training had no effect on the conclusions.

ROR

Caucasian officers scored an average of 96.0 and non-Caucasian officers scored 94.5 on the ROR test. This difference is statistically significant different at the .05.

The ethnicity-training interaction is not statistically significant at the 0.05 level but could be statistically significant with a slightly larger sample size.

If there were no interaction between ethnicity and training protocol, the difference between Caucasian officers and non-Caucasian officers would be the same under either the old training protocol or the new training protocol. However, the difference under the old training protocol is smaller than under the new training protocol.

| | Old Training | New Training | difference |
|---------------------------|-----------------|-----------------|------------|
| Caucasian Officers | 96.2 n=472 | 95.6 n=140 | 0.6 |
| Non-Caucasian Officers | 95.1 n=152 | 92.0 n= 41 | 3.1 |
| difference | 1.1 | 3.6 | |

The order of fitting the variables ethnicity and training had no effect on the conclusions.

MW

Caucasian officers scored an MW average of 87.2 and non-Caucasian officers scored 86.1. This difference is statistically significant different at the .05 level.

The ethnicity-training interaction is not significant.

The order of fitting the variables ethnicity and training had no effect on the conclusions.

Time_OOD_Qual

Since the ethnicity-training interaction is statistically significant, the comparison of time to OOD qualification between Caucasian and non-Caucasians has to take into consideration the training protocol used.

For Caucasian officers, the time to OOD qualification is the same regardless of training protocol. For non-Caucasian officers, the time to OOD qualification is shorter under the new training protocol versus the old protocol.

| | Old Training | New Training | difference |
|---------------------------|-----------------|-----------------|------------|
| Caucasian Officers | 526 n=324 | 527 n= 87 | -1 |
| Non-Caucasian Officers | 538 n= 98 | 405 n= 22 | -67 |
| Difference | -12 | +122 | |

The order of fitting the variables ethnicity and training had no effect on the conclusions .

Analysis of Variance: Training and Department Billet

The school classified the officers' previous department billets. The categories used in the analysis are "weapons", "operations", "combat systems", "engineering", and "deck". "C5I" and "combat systems/weapons" are reclassified as "combat systems". "Reactor" is reclassified as "engineering". All other department billets are set aside for this analysis.

CBT

The analysis of variance F-test finds a statistically significant difference at the .05 level among the five levels of department billet. This means that at least one of the means does not arise from the same distribution as the others.

Tukey's Studentized Range Test would point to the average "Deck" CBT score as being lower than expected.

| Dept.Billet | N | CBT |
|----------------|-------|-------|
| ----- | ----- | ----- |
| Weapons | 146 | 85.0 |
| Operations | 219 | 84.6 |
| Combat Systems | 143 | 84.3 |
| Engineering | 231 | 83.0 |
| Deck | 45 | 79.9 |

The interaction of department billet and training is not statistically significant for the CBT score.

The order of fitting the explanatory variables had no effect on the conclusions.

ROR

There is no statistical difference among the average ROR test scores for officers from different department billets.

The department billet-training interaction is not significant.

The order of fitting the variables department billet and training had no effect on the conclusions.

MW

The analysis of variance F-test finds the interaction between department billet and training to be statistically significant difference at the .05 level. Any discussion of MW scores must take into consideration both the officer's department billet and training protocol.

The following table displays the observed mean, the expected mean under no interaction, and the deviation of the expected from the observed (in parenthesis) for all combinations of training protocol and department billet. For the purposes of this quick study, the expected means were calculated assuming equal observations in every cell.

By looking at the magnitudes of the deviations, the deck averages for MW for both the old and the new training protocols are the big contributors to the statistically significant interaction. The MW average under the old training protocol is much lower than expected and the MW average under the new training protocol is much higher than expected.

| | Old Training | New Training |
|----------------|---------------------------------|---------------------------------|
| Combat Systems | 87.0 85.4 (1.6) n=107 | 87.2 88.7 (-1.5) n= 36 |
| Deck | 82.8 86.4 (-3.6) n= 37 | 93.5 89.8 (3.7) n= 8 |
| Engineering | 86.2 84.6 (1.6) n=184 | 86.4 87.9 (-1.5) n= 47 |
| Operations | 87.1 85.7 (1.4) n=170 | 87.6 88.9 (-1.3) n= 49 |
| Weapons | 88.0 88.7 (-0.7) n=107 | 93.0 92.1 (0.9) n= 38 |

Time_OOD_Qual

There is no statistical difference among the average time to OOD qualification for officers from the different department billet categories.

The department billet-training interaction is not significant.

The order of fitting the explanatory variables had no effect on the conclusions.

Analysis of Variance: Training and Commission Source

The categories used in the analysis are "NROTC", "OCS", "STA-21", and "USNA". Commission sources "CWO/LWO", "NUPOC", and "Other Service" are set aside and not used in this analysis.

CBT

The analysis of variance F-test finds a statistically significant difference at the .05 level due to the training and commission source interaction. This means that comparison of the means must take into consideration the values of training and commission source.

| | Old Training | New Training |
|--------|---------------------------------|---------------------------------|
| NROTC | 84.9 84.6 (0.3) n=224 | 80.5 80.8 (-0.3) n= 52 |
| OCS | 84.6 86.0 (0.6) n=122 | 79.7 80.3 (-0.6) n= 57 |
| STA-21 | 85.8 84.6 (0.7) n= 51 | 81.2 81.9 (-0.7) n= 13 |
| USNA | 83.8 85.6 (-1.8) n=231 | 83.5 81.7 (1.8) n= 62 |

Looking at the deviations from the observed means minus the expected means, it appears the USNA graduates score appreciably lower on the CBT test under the old training protocol and appreciably higher under the new one.

The commission source-training interaction is not significant.

The order of fitting the variables commission source and training had no effect on the conclusions.

ROR

There is no statistical difference among the average ROR test scores for officers from the different commission sources.

The commission source-training interaction is not significant.

The order of fitting the variables commission source and training had no effect on the conclusions.

MW

There is no statistical difference among the average MW test scores for officers from the different commission sources.

The commission source -training interaction is not significant.

The order of fitting the variables commission source and training had no effect on the conclusions.

Time_OOD_Qual

There is no statistical difference among the average time to OOD qualification for officers from the different commission sources.

The commission source-training interaction is not significant.

The order of fitting the variables commission source and training had no effect on the conclusions.

Analysis of Variance: Training and Ship Class

Ship classes used in the analysis are “DDG”, “FFG”, “CG”, “MCM”, and “LLL”. The last “LLL” includes all ship classes associated with amphibious warfare: “LCC”, “LHA”, “LHA”, “LHD”, “LPD”, and “LSD”. Officers with ship class “CVN” are set aside because of small numbers and not used in the analysis.

CBT

The analysis of variance F-test finds a statistically significant difference at the .05 level due to different levels of ship class on the CBT test scores.

| Ship Class | N | CBT |
|------------|-------|-------|
| ----- | ----- | ----- |
| DDG | 316 | 85.5 |
| FFG | 138 | 84.6 |
| CG | 155 | 83.4 |
| MCM | 26 | 81.7 |
| LLL | 182 | 81.2 |

Tukey’s Studentized Range test points to the means for DDG and FFG are significantly different from LLL. The MCM mean is close to the LLL mean but DDG and FFG were not found to be significantly different from MCM because of MCM’s small sample size.

There is no ship class – training interaction.

The order of fitting the variables has no effect on the conclusions.

ROR

The analysis of variance F-test finds a statistically significant difference at the .05 level due to different levels of ship class on the ROR test scores.

| Ship Class | N | ROR |
|------------|-------|-------|
| ----- | ----- | ----- |
| MCM | 26 | 97.1 |
| DDG | 316 | 96.6 |
| FFG | 138 | 95.1 |
| LLL | 182 | 95.2 |
| CG | 155 | 94.8 |

Tukey’s Studentized Range test points to the mean for DDG as significantly different from those of FFG, LLL, and CG. The MCM mean has a greater magnitude than DDG. But the sample size is too small to find significance.

There is no ship class – training interaction.

The order of fitting the variables has no effect on the conclusions.

MW

The analysis of variance F-test finds a statistically significant difference at the .05 level due to the training and ship class interaction. This means that comparison of the means must take into consideration the values of training and ship class.

The ship class MCM has small numbers. The number of MCM officers trained under the new protocol is six. If we set aside MCM officers, there is a difference among MW test scores for the remaining ship classes. However, the interaction disappears.

| Ship Class | N | ROR |
|------------|-------|-------|
| ----- | ----- | ----- |
| DDG | 316 | 88.8 |
| FFG | 138 | 86.8 |
| CG | 155 | 86.7 |
| LLL | 182 | 84.7 |

Tukey's Studentized Range test points to the mean for DDG is significantly different from that of CG and LLL.

The order of fitting the variables ship class and training had no effect on the conclusions.

Time_OOD_Qual

There is no statistical difference among the average time to OOD qualification for officers from the different ship classes.

The ship class-training interaction is not significant.

The order of fitting the variables ship class and training had no effect on the conclusions.

Demographic Comparison Class 248 with the Other 14 Classes

Class 248 was compared to the rest of the 14 classes on seven demographic variables: gender, ethnicity, prior enlisted, rank, source of commission, ship class, and department billet. Class 248 was consistent with the levels of the rest of the classes on six demographic variables. The only exception was source of commission.

Gender

The percentage of women in class 248 is 30.5% and 24.7% for the mean of the 14 other classes. The Class 248 value is less than one standard deviation from the mean of the other classes $(30.5-24.7)/7.0 = 0.83$

Ethnicity

The percentage of non-Caucasians in Class 248 is 20.3% and 24.2% for the mean of the 14 other classes. The Class 248 is less than one standard deviation from the mean of the other classes $(20.3-24.2)/5.5 = -0.71$

Prior Enlisted

The percentage of officers with prior enlisted service in Class 248 is 23.7% and 21.0% for the mean of the 14 other classes. The Class 248 value is less than one standard deviation from the mean of the other classes $(23.7 - 21.0)/5.4 = 0.50$

Rank

The percentage of ensigns in Class 248 is 93.2% and 90.7% for the mean of the 14 other classes. The Class 248 value is less than one standard deviation from the mean of the other classes $(93.7 - 90.7)/3.8 = 0.66$

Source of Commission

Source of commission has four levels: NROTC, OCS, STA-21, and USNA. The percentage of officers in these four categories for Class 248 is 24%, 34%, 9%, 33%. For the 14 other classes combined 35%, 21%, 8%, 36%.

The chi-square test of independence statistics points out that Class 248 has fewer officers commissioned through NROTC than the rest of the classes (24% vs. 35%) and more officers from OCS (34% vs. 21%).

Ship Class

Ship class has five levels: CG, DDG, FFG, LLL (amphibious assault ships), and MCM. The chi-square test of independence indicates that the percentages of ship class levels for the Class 248 are consistent with the percentages for the rest of the classes.

Department Billet

The officer's prior department billet is grouped to five levels: combat systems, deck, engineering, operations, and weapons. The chi-square test of independence

indicates that the percentages of department billet levels for the Class 248 are consistent with the percentages for the rest of the classes.

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